

High Mileage SOF Warriors

Overview



- **Health concerns of aging**
- **Building blocks for life**
- **Protective foods and nutrients**
- **Functional foods and health**
- **Vitamin M and alternatives**
- **Eating a balanced diet**



Arthritis & Musculoskeletal Injuries



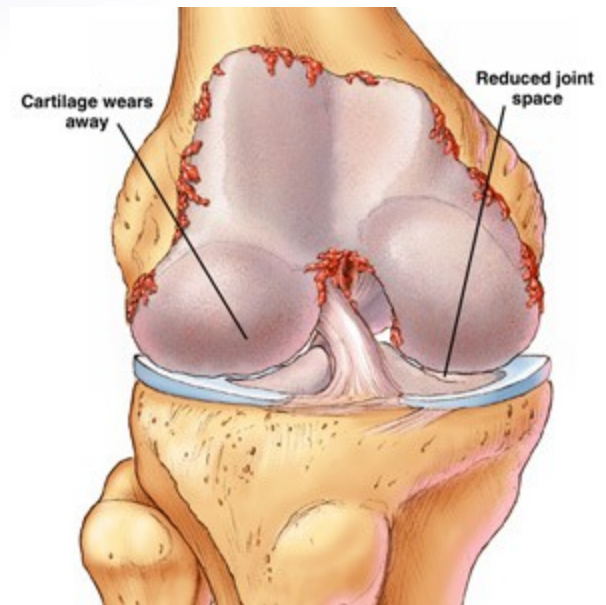
- **One-third of U.S. veterans suffer from arthritis**
- **SOF are at high risk for developing musculoskeletal injuries due to the demands of physical training**
- **Joint pain can be minimized by choosing foods high in various nutrients**



Osteoarthritis



- **Prevalent in active duty and retired military**
 - Excessive body weight is a major risk factor
 - Low-impact exercise may help reduce pain
- **Self care treatments include:**
 - Increasing intake of anti-inflammatory foods
 - Minimizing intake of caffeine, alcohol, sugar, and hydrogenated fats (margarine)



Anti-inflammatory Foods



- **Green vegetable**
- **Carrots**
- **Avocados**
- **Pecans**
- **Seeds**
 - **Sesame**
 - **Flax**
 - **Pumpkin**



- **Oats**
- **Soy**
- **Brown rice**
- **Wheat**
- **Cold water**



Weight Maintenance Issues



- **Food Quality**
- **Quality of Sleep**
- **Physical Activity**
- **Alcohol and “junk food”**
- **Weight cycling (Yo-Yo Dieting)**
 - **Binge eating and repeated dieting can cause health problems**



High Blood Pressure



- **Most common “heart” condition among active duty personnel**
- **Recommended behaviors:**
 - Maintaining a healthy weight
 - Daily physical activity
 - Eating a healthy diet
 - Avoiding foods high in sodium
 - Drinking alcohol in moderation



Normal blood pressure: < 120/80 mm Hg

CHAMP Dietary Approaches to Stop Hypertension: DASH

USU CONSORTIUM
FOR HEALTH AND
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- **More fruits, vegetables, and low-fat dairy foods**
- **Fewer foods high in saturated fat, cholesterol, and total fat**
- **More whole grains, fish, poultry, and nuts**
- **Less red meat and sweets**
- **Eating foods rich in magnesium, potassium, and calcium**
- **Reducing sodium (salt) to 1,500 mg a day (about 2/3 teaspoon)**

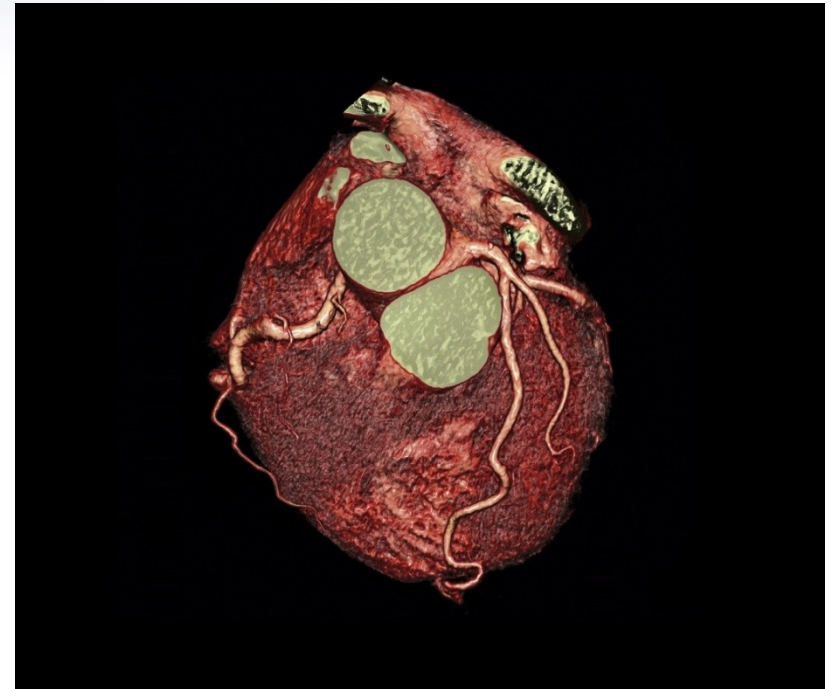




Risk Factors and Coronary Heart Disease



- **Diabetes**
- **Cholesterol (HDL/LDL)**
- **High Blood Pressure**
- **Smoking/Tobacco Use**
- **Alcohol Consumption**
- **Family History of Heart Disease**





Building Blocks for Life



Healthy Eating Patterns

- Eat a variety of fruits & vegetables
- Eat whole grain pastas and rice
- Select low-fat products

Desirable Lipid Profiles

- Limit use of saturated fats
- Avoid trans fats
- Replace saturated fats with fats from vegetables, fish, and nuts

Healthy Body Weight

- Balance energy needs
- Engage in physical activity
- Avoid the “Apple Shape” body
- Maintain waist girth < 40”

Desirable Blood Pressure

- Limit use of salt
- Limit alcohol to < 2/day
- Maintain body weight
- Follow DASH Diet



Type II Diabetes & Cancer



Type II Diabetes

- **Incidence**
 - expected to double in next 50 years
- **People with diabetes**
 - are 2x as likely to develop cardiovascular problems than those without diabetes
- **Closely related to obesity and physical inactivity**

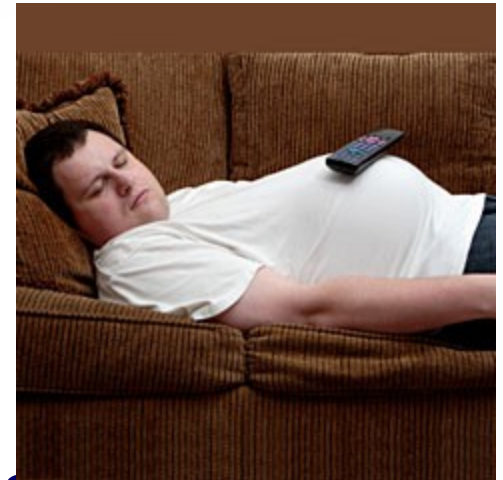
Cancer

- **Contributing factors**
 - Genetics
 - Immune function
 - Environment
 - Lifestyle
- **Modifiable risk factors**
 - Alcohol consumption
 - Physical activity
 - Body weight
- **Factors that lower risk**
 - Mediterranean diet;
 - Foods high in fiber, fruits & vegetables
 - Moderate wine intake

Metabolic Syndrome



- **Caused by**
 - Sedentary lifestyle
 - Stress
 - Poor dietary choices
 - “Syndrome X”
- **Central adiposity is present**
 - A male with a waist circumference ≥ 37 inches (94 cm) is considered at risk





Metabolic Syndrome

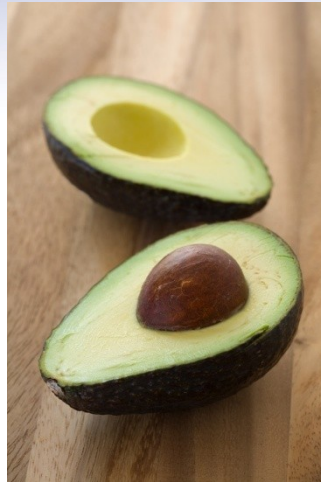


- **At least 2 of the following factors must be present to diagnose**
 - Serum triglyceride levels ≥ 150 mg/dl or being treated for this lipid problem
 - Serum HDL cholesterol levels < 40 mg/dl
 - Systolic blood pressure ≥ 130 or diastolic blood pressure ≥ 85 mmHg or being treated for high blood pressure
 - Fasting plasma glucose concentration ≥ 100 mg/dl or a diagnosis of type 2 diabetes

Protective Foods and Nutrients



- Soy
- Beans
- Salmon
- Avocado
- Garlic
- Spinach
- Walnuts, Cashews, Almonds
- Dark or Bittersweet Chocolate
- Tea



- Soluble fiber
- Omega-3 fatty acids
- Vitamin B6
- Vitamin B12
- Folate
- Vitamin





“Functional Foods” and Health



Functional Food Classes

- **Carotenoids**
- **Fiber**
- **Flavonoids**
- **Isocyothionates**
- **Minerals**
- **Phenolic Acids**
- **Prebiotics/Probiotics**
- **Phytoestrogens**
- **Plant Sterols**
- **Carbohydrates**
- **Vitamins**

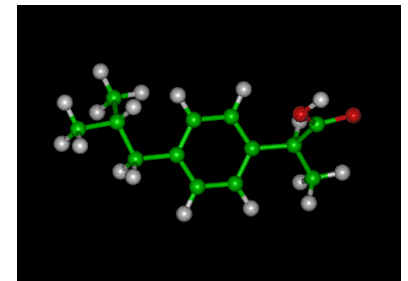
Beneficial Functions

- **Restore fluid balance**
- **Improve endurance**
- **Enhance muscle strength**
- **Prevent muscle/joint injuries or fatigue**
- **Enhance immune function**
- **Prevent heart disease & diabetes**
- **Prevent high blood pressure**
- **Reduce pain/inflammation**

Vitamin M (Ibuprofen)



- **Non-steroidal anti-inflammatory drugs (NSAID) used to relieve pain, fever and inflammation**
 - Some SOF warriors take up to 2 grams/day
- **Dependence risks**
 - GI distress, raised liver enzymes, salt/fluid retention, and hypertension
 - Increased risk of myocardial infarction



- **Glucosamine**
- **Chondroitin**
- **Vitamin E**
- **Selenium**
- **Omega-3 Fatty Acids**
- **Capsaicin Cream (from chili peppers)**
- **Bioquercetin**
- **Methylsulfonylmethane or MSM**



Antioxidants



- **Neutralize free radicals produced by strenuous exercise, pollutants, chemicals, UV-radiation, and extreme environments**
- **> 4,000 compounds in foods act as antioxidants (“Functional Foods”)**
- **Most well known antioxidants are: Vitamins C and E, beta carotene and the mineral, selenium**

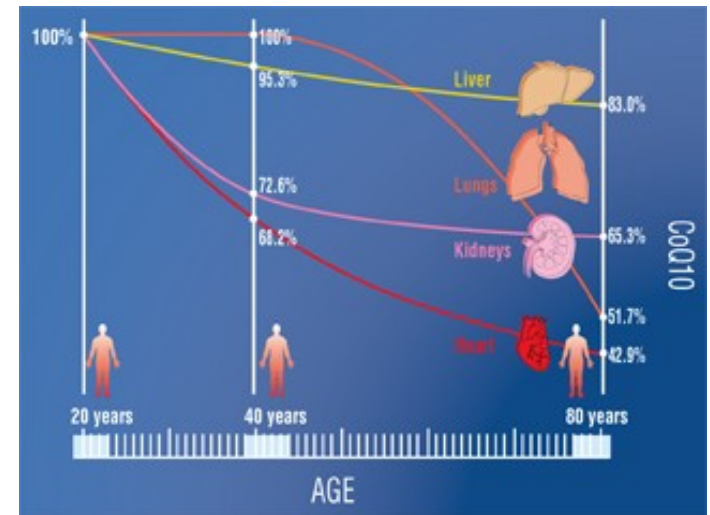




Coenzyme Q10 (CoQ10)



- **Vitamin-like substance essential for producing energy**
- **CoQ10 levels decrease with age and low in some chronic diseases**
- **Often given with statins, which inhibit body's ability to make CoQ10**
- **Sold as a dietary supplement**
- **Primarily found in fish and meat**





A Well Balanced Diet



- **A well balanced diet of fruits, grains, & vegetables provides the best sources of antioxidants & other nutrients**
- **Many studies have shown that people who eat a well balanced diet are less at risk for developing many chronic diseases**
- **Recommend to eat at least 4 servings of fruit & 5 servings of vegetables daily**



Key Points



- **Maintaining weight is important; minimize weight cycling**
- **Healthy foods & foods high in anti-inflammatory compounds can minimize pain from arthritis**
- **NSAIDs should be used on a limited basis**
- **Foods, not supplements, should be the primary source of nutrients**
- **Certain foods can limit the risk of developing hypertension, coronary heart disease, diabetes, and cancer**